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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,919	08/31/2001	Shulong Li	5312	2185

7590 02/25/2004
Milliken & Company
P.O. Box 1927
Spartanburg, SC 29304

EXAMINER

SHEWAREGED, BETELHEM

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

Office Action Summary	Application No.	Applicant(s)	
	09/943,919	LI ET AL.	
	Examiner	Art Unit	
	Betelhem Shewareged	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-21, 23-25, 28-32, 34-36, 39-43, 45-47 and 50-57 is/are rejected.
- 7) ☒ Claim(s) 22, 26, 27, 33, 37, 38, 44, 48 and 49 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's response filed on 11/13/2003 has been fully considered. Claims 1-18 are canceled, claims 52-57 are added, and thus claims 19-57 are pending.

Election/Restrictions

2. Applicant's election without traverse of Group I Species C in Paper No. 11/13/2004 is acknowledged.

Claim Objections

3. Claims 19, 30, and 41 are objected to because of the following informalities:
 - (a) Claims 19, 30 and 41 recite the term "a first substrate", however, the claims fail to recite a second or any other substrate.
 - (b) Claims 19, 30 and 41 recite the limitation "said textile substrate" in line 7 of each claim. There is insufficient antecedent basis for this limitation in the claim.Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 19-21, 23-25, 28-32, 34-36, 39-43, 45-47 and 50-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nigam (US 6,291,023 B1) in view of Sismondi et al. (US 6,387,473 B1) and Mishima (US 6,183,851 B1).

Nigam discloses Images printed on a textile substrate coated with a coating composition (abstract). The coating composition is equivalent to the claimed treatment mixture. The coating composition comprises binders (col. 10, line 52 thru col. 12, line 2), inorganic fillers such as silica (col. 12, line 6 and col. 17, lines 12 and 13), dye mordant (col.12, line 7), and UV absorber (col. 12, line 8) in an amount of 0.5-2.0% by wt. of the coating composition (col. 12, line 13). The dye mordant is equivalent to the claimed amine-containing cationic compound. The coating composition is applied on the substrate as a pretreatment prior to printing. Nigam further teaches the use of more than one binder as the claimed invention (Table 1). The coated textile substrate is printed with suitable ink using ink jet printing method, wherein the ink comprises a reactive dye such as acid dyes and direct dyes (col. 13, line 66 thru col. 14, line 33). Nigam also teaches the use of additional conventional additive in the coating composition. Nigam fails to disclose amine-containing cationic compound as the dye mordant, and it also fails to disclose an antimicrobial agent as one of the conventional additives.

Sismondi teaches an ink jet receiving sheet comprising a support and at least two ink receiving layers (abstract). The ink receiving layer is equivalent to the claimed treatment mixture layer. The ink receiving layer comprises UV absorbers (col. 10, line

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36), amine-containing cationic mordant (col. 7, line 62 thru col. 8, line 61), and anti-fungal agents (col. 10, line 40).

Nigam and Sismondi are analogous art because they are from the same field of endeavor that is the ink jet recording medium art. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the amine-containing cationic mordant and the anti-fungal agents of Sismondi with the invention of Nigam so as to enhance the ink absorbing property of the layer and to prevent the growth of microorganisms on the layer.

Nigam fails to disclose specific types of the UV absorber.

Mishima teaches an ink jet image recording medium comprising a support and a coating layer on the support (abstract). The coating composition is equivalent to the claimed treatment mixture layer. The coating composition comprises amine-containing cationic compound (col. 15, line 62), and UV absorbers such as benzotriazole-based compound and benzophenone-based compound (col. 16, lines 29-36).

Nigam and Mishima are analogous art because they are from the same field of endeavor that is the ink jet recording medium art. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the UV absorbers of Mishima with the invention of Nigam in order to inhibit the discoloration of an image on the recording medium (col. 16, lines 17-21 and 43-49).

The process by which the treatment mixture and the ink is applied is not dispositive of the issue of the patentability of the instant article claims.

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Allowable Subject Matter

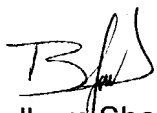
6. Claims 22, 26, 27, 33, 37, 38, 44, 48 and 49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betelhem Shewareged whose telephone number is 571-272-1529. The examiner can normally be reached on Mon.-Thur. 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Betelhem Shewareged
February 15, 2004.